

REMARKS

Claims 1-19 are all the claims pending in the application. The Examiner rejects claims 1-19 under 35 U.S.C. §112, first paragraph stating the previous amendments to claims 1 and 12 contained new matter and also failed to comply with the enablement requirement. The Examiner rejects claims 1-6, 8-10, and 14-19 under 35 U.S.C. §102(b) as being anticipated by Taniguchi (US 6,094,216). The Examiner further rejects claims 7, 11, and 13 under 35 U.S.C. §103(a) as being unpatentable over Taniguchi. Claims 1-19 are objected to for various informalities.

Applicant appreciates the acknowledgment of foreign priority under 35 U.S.C. §119.

§ 112, First Paragraph Rejection

Claims 1 and 12 were amended in the response to the previous Office Action to include the limitations “wherein a portion of the convertible regions having no parallax image becomes transparent and a portion of the convertible regions having parallax images becomes opaque” and “wherein the length for a segment of the transparent region is $p(D-d)/D$ and the length for a segment of the convertible region is $(n-1)p(D-d)/D$ where n is the number of parallax images, p is a pixel dimension, D is the distance from a viewer to the mask, and d is the distance from the mask to the display panel.” The Examiner stated the specification failed to teach these limitations.

Applicant respectfully believes that both limitations are fully supported by the specification. For example, paragraph [0015] recites “the controller converts all the convertible regions into transparent regions, when the number of parallax images is 1 or 0....” See also, paragraph [0018], “the controller determines a portion of the mask corresponding to the portion of the parallax images having no parallax to become transparent regions.” This teaches “convertible regions having no parallax image becomes transparent.”

Paragraph [0037] recites “the controller 30 verifies the number of the parallax images and, then, either converts a portion of the transparent regions 51 into opaque regions, or converts a portion of the convertible regions 52 into transparent regions, depending upon the number of

the parallax images”, thereby teaching “a portion of the convertible regions having parallax images becomes opaque.”

Paragraph [0027] recites the dimensional relationships between the mask to display distance, the observer to mask distance, the pixel size, and the dimensions of the transparent regions. Further, this paragraph recites the dimensional relationships of the convertible region to the mask to display distance, the observer to mask distance, the pixel size, and the number of parallax images. These limitations of claims 1 and 12 are directly recited in paragraph [0027].

Claims 1 and 12 are further amended to clarify that the transparent and convertible regions of the mask correspond with the parallax images of the display panel. Applicant is aware that the mask has no images, but only allows the display panel images to be selectively viewed according to the transparency condition of regions of the mask.

In response the Examiner’s comment that the equation in claims 1 and 12 is incorrect, applicant amends claims 1 and 12 to correct the representation of the distance from the observer to the display panel and not the mask. The specification has also been correspondingly amended. These amendments do not constitute new matter, but merely correct and obvious error. One skilled in the art would certainly be able to understand these limitations even without correcting the error, but correcting the error aids in the understanding of the subject matter sought to be patented. Further, applicant corrects FIGS. 1, 4, and 5.

For these reasons, Applicant believes that the current and previous amendments introduce no new matter and these amendments fully comply with the requirements of §112, first paragraph. Applicant respectfully requests reconsideration and withdrawal of this rejection.

§ 102(b) Rejection

Claims 1-6, 8-10, and 14-19 are rejected under 35 U.S.C. §102(b) as being anticipated by Taniguchi (US 6,094,216). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See, MPEP 2131.

Claims 1 and 12

The Examiner relies upon Taniguchi to teach a three-dimensional image display device comprising a display panel and a mask having transparent and convertible regions alternately aligned in a horizontal direction. Applicant has amended claims 1 and 12 to add the limitations of the convertible regions that do not correspond to at least one parallax image become transparent and the convertible regions that correspond to at least one parallax image become opaque, and further adds the limitations of the lengths of a segment of the transparent region and convertible region, wherein the length of the convertible portion is dependent upon the number of parallax images.

Taniguchi does not teach the calculating the length of the convertible portion responsive to the number of parallax images, but instead teaches the calculation of the width of each slit is based upon the distance to the display screen, the distance between a mask and the display, and the distance between a viewer's eyes. See, e.g., Taniguchi, col. 12, lines 1-3 and Fig. 1. The number of parallax images does not affect Taniguchi's calculations. Claims 1 and 12 require a computation calculating the length of the convertible portion based upon the number of parallax images, a limitation not taught or reasonably suggested by Taniguchi.

For at least this reason, claims 1 and 12, as amended, are allowable over Taniguchi. Applicant respectfully requests reconsideration and allowance in view of the amendments and remarks.

Claims 2-6, 8-10, and 14-19

Each dependent claim depends from a now allowable independent claim and is allowable for at least the same reasons as those described above. Applicant respectfully requests reconsideration and withdrawal of the rejections.

§ 103(a) Rejections

Claims 7, 11, and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Taniguchi. To establish a *prima facie* case of obviousness, three basic criteria must be met one

of which is that the prior art reference (or references when combined) must teach or suggest all the claim limitations.¹

Claims 7, 11, and 13 are dependent claims and have the same limitations as their base claims (and any intervening claims), and for at least the reasons presented above, are also allowable. Applicant respectfully requests reconsideration and withdrawal of the rejections.

Objections:

The Examiner objected to claims 1-19, but provided specific comments for claims 1, 11-15, and 17-18. Claims 1, 5-6, 17 and 18 have been amended in response to the Examiner's objections. The amendments specifically address each of the Examiner's comments regarding each of these claims.

Convertible regions

The mask is an LCD device, wherein pixel elements of the LCD may be either transparent or opaque. The mask is coupled with a controller to alter the states of the LCD pixel elements selectively converting them from transparent to opaque or vice versa. The American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2000 by Houghton Mifflin Company defines "region" as "a large [large is a relative term], usually continuous segment of a surface or space; area," therefore a convertible region is an area of the mask that the controller may cause to change from transparent to opaque or vice versa. The region or area corresponds with one or more parallax images of the display.

Number of parallax images; predetermined number of parallax images; less than a predetermined number

Regarding the term "predetermined number" in claims 10, 12, and 14-15, a three-dimensional image comprises a number of separate images, each image taken at a slightly different viewing angle, and each of these images is known as a parallax image. The number of viewing angles may vary for each three-dimensional image, and the resolution of the three-

¹ See, MPEP 2143.

dimensional image decreases as the number of viewing angles increase. Therefore a skilled artisan would establish the “predetermined number” as a trade off relating to picture quality. *See*, Application, paragraph [0034].

The American Heritage® Dictionary of the English Language, Fourth Edition, Copyright © 2000 by Houghton Mifflin Company defines “predetermined” as “to determine or decide something in advance.” Applicant believes that the term “predetermined” is used in its ordinary meaning, and when used with number of parallax images means, for example, that a practitioner determines in advance a particular number of images to be used as a decision criteria for converting convertible regions into transparent regions.

Pixel dimension

A pixel has a horizontal and a vertical dimension, and the term pixel dimension refers to either the horizontal or vertical dimension according to the particular usage. For example, as used in claims 1 and 12, pixel dimension is used with reference to a segment length. Therefore, for a normally oriented pixel, length would relate to the horizontal pixel dimension, or in other words, the dimension that measures the width of a pixel.

Control the distance between the display and the mask

Regarding the Examiner’s comments that claims 11 and 13 fail to teach controlling the distance between the display and the mask, Applicant asserts that controlling the distance is well known in the art. For example, Taniguchi also teaches controlling the distance by using “variable spacers 33, the spacer driving means 34, and the like constitute an interval control means.”² Taniguchi was filed in 1996, well before the filing date of this application, and demonstrates that a skilled artisan would know how to control the distance between the display and the mask.

² *See*, Taniguchi, col. 18: 29-36.

It is well established that a patent need not teach, and preferably omits, what is well known in the art.³ The Examiner has cited Taniguchi as being prior art, and Taniguchi teaches variable spacers and driving means for controlling the distance between a mask and a display. Accordingly, a detailed description of these characteristics is not needed for these claim to comply with the enablement requirements of 35 U.S.C. § 112. For these reasons, Applicant submits that the present disclosure provides sufficient teachings in compliance with 35 U.S.C. § 112, first paragraph, and requests that the objections to claims 11 and 13 be withdrawn.

For these reasons and in light of the amendments, Applicant asserts that the objections have been responded to, and that the objections be reconsidered and withdrawn.

³ See, MPEP § 2164.01.

CONCLUSION

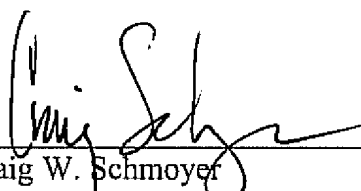
In view of the above, entry of this amendment, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Lee, Hong, Degerman, Kang & Schmadeka

Date: August 25, 2006

By:



Craig W. Schmoyer
Registration No. 51,007
Attorney for Applicant

Customer No. 035884